

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IMPINJ, INC.,
Plaintiff,
v.
NXP USA, INC.,
Defendant.

Case No. [19-cv-03161-YGR](#)

**ORDER GRANTING IN PART AND DENYING
IN PART NXP’S MOTION FOR A NEW TRIAL
AND JUDGMENT AS A MATTER OF LAW AND
DENYING IMPINJ’S MOTION FOR
JUDGMENT AS A MATTER OF LAW**

Re: Dkt. Nos. 419, 420, 444, 446

I. BACKGROUND

On July 14, 2023, after trial in this action, a jury rendered a verdict with respect to the ‘302 patent and the ‘597 patent.¹ In particular, the jury found independent claim 1 and dependent claim 3 of the ‘302 patent valid and dependent claims 4 and 7 invalid. The Court had already found that NXP infringed the ‘302, if valid. The jury also found NXP liable for infringement of the ‘597 patent.

Impinj moves for entry of judgment as a matter of law in its favor on claims 4 and 7 of the ‘302 patent on the ground that those claims cannot be obvious if independent claim 1 is nonobvious and that NXP failed to meet its burden by clear and convincing evidence to support that verdict. (*See* Dkt. No. 444 (“Impinj Mtn.”).) NXP moves for a new trial on the validity of the ‘302 on the ground that the jury returned an inconsistent verdict and on the infringement of the ‘597 because there is insufficient evidence for the jury’s finding. Alternatively, NXP requests entry of judgment in its favor. (*See* Dkt. No. 446 (“NXP Mtn.”).)

On September 5, 2023, the Court held oral argument. Having considered the filings, oral

¹ U.S. Patent No. 9,633,302, “RFID Integrated Circuits with Channels Reducing Misalignment” (filed Mar. 31, 2015); U.S. Patent No. 8,115,597, “RFID Tags with Synchronous Power Rectifier” (filed Mar. 4, 2008).

argument, and the entirety of the trial proceedings, the Court **GRANTS** the motion for a new trial regarding the validity of the '302; **DENIES** the motion for a new trial regarding infringement of the '597; **GRANTS** NXP's motion for judgment as a matter of law concerning extraterritorial sales; and **DENIES** Impinj's motion for judgment as a matter of law in favor of the validity of claims 4 and 7 of the '302 patent.²

II. LEGAL STANDARD

A court may grant a motion for judgment as a matter of law against the nonmoving party only if there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue. Fed. R. Civ. P. 50(a) (commonly referenced as a JMOL). Specifically, the Ninth Circuit has made clear that a court "cannot disturb the jury's verdict if it is supported by substantial evidence." *Lambert v. Ackerley*, 180 F.3d 997, 1012 (9th Cir. 1999). Substantial evidence means "evidence adequate to support the jury's conclusion, even if it is also possible to draw a contrary conclusion" from the same evidence. *Castro v. County of Los Angeles*, 833 F.3d 1060, 1066 (9th Cir. 2016) (citation omitted). "Thus, although the court should review the record as a whole, it must disregard evidence favorable to the moving party that the jury is not required to believe" and may not "substitute[] its judgment concerning the weight of the evidence for the jury's." *Reeves v. Sanderson Plumbing Prod., Inc.*, 530 U.S. 133, 151, 153 (2000). In other words, entry of judgment as a matter of law is warranted only "if the evidence, construed in the light most favorable to the nonmoving party, permits only one reasonable conclusion, and that conclusion is contrary to the jury's verdict." *Castro*, 833 F.3d at 1066 (citation omitted). However, on occasion that does occur, and the rule exists to correct an error of the jury. *See G. David Jang, M.D. v. Bos. Sci. Corp.*, 872 F.3d 1275, 1287 (Fed. Cir. 2017) (entering judgment of noninfringement under the doctrine of equivalents notwithstanding jury verdict because substantial evidence did not support the jury verdict).

² The Court cites trial transcripts throughout this Order and so defines them here: Dkt. No. 433, ("July 6 Trial Tr."); Dkt. No. 434 ("July 7 Trial Tr."); Dkt. No. 435 ("July 10 Trial Tr."); Dkt. No. 436 ("July 11 Trial Tr."); Dkt. No. 437 ("July 12 Trial Tr."); Dkt. No. 438 ("July 13 Trial Tr."); Dkt. No. 439 ("July 14 Trial Tr.).

With respect to motions for a new trial, Rule 59 does not specify the grounds upon which such a motion be granted. Instead, a court is “bound by those grounds that have been historically recognized.” *Zhang v. Am. Gem. Seafoods, Inc.*, 339 F.3d 1020, 1035 (9th Cir. 2003). For instance, after bench trials, grounds supporting a new trial would include: “(1) manifest error of law; (2) manifest error of fact; and (3) newly discovered evidence.” *Brown v. Wright*, 588 F.2d 708, 710 (9th Cir. 1978). Even there, “the burden of showing harmful error rests on the party seeking the new trial.” *Boston Scientific Corp. v. Johnson & Johnson*, 550 F.Supp.2d 1102, 1110 (N.D. Cal. 2008) (citation and internal quotation marks omitted). Granting a new trial is left to the sound discretion of the trial court. *See City Sols., Inc. v. Clear Channel Commc'ns*, 365 F.3d 835, 843 (9th Cir. 2004).

III. DISCUSSION

A. ‘302 Patent

Impinj moves for relief concerning the ‘302 patent. It seeks entry of judgment as a matter of law that claims 4 and 7 are valid and nonobvious in light of the jury’s finding that independent claim 1, from which claims 4 and 7 depend, is nonobvious and valid. As a corollary, NXP seeks a new trial on validity of the ‘302.

Impinj submits four arguments supporting its JMOL motion. One, NXP failed to offer affirmative support for finding a motivation to combine NXP’s proposed prior art references, particularly because the prior art references do not address the same problem as that addressed by the patent. Two, the Eberhardt³ reference cannot be used to render the ‘302 obvious because it teaches away from techniques taught in the ‘302. Three, Dr. Subramanian’s proposed modifications to the ‘302 would make it inoperable, which vitiates his arguments. Four, Dr. Subramanian failed to adequately account for secondary considerations of nonobviousness. The Court addresses each.

³ U.S. Patent No. 6,246,327, “Radio Frequency Identification Tag Circuit Chip Having Printed Interconnection Pads” (filed Sep. 9, 1999); U.S. Patent No. 6,091,332, “Radio Frequency Identification Tag Having Printed Circuit Interconnections” (filed Jul. 14, 1998).

1. Legal Framework

With respect to the '302 patent and NXP's affirmative defense of obviousness, NXP had the burden to prove the same by clear and convincing evidence. NXP's sole theory, presented at trial, was that a person skilled in the art ("POSITA") would have been motivated to combine Eberhardt and Ching-San.⁴

The factual determinations underpinning the legal conclusion of obviousness include 1) the scope and content of the prior art, 2) the level of ordinary skill in the art, 3) the differences between the claimed invention and the prior art, and 4) evidence of secondary factors, also known as objective indicia of non-obviousness.

Eisai Co. v. Dr. Reddy's Lab'ys, Ltd., 533 F.3d 1353, 1356 (Fed. Cir. 2008). Impinj argues NXP failed to do so as a matter of law.

Under Federal Circuit authority, there can be no motivation to combine where a reference teaches away from combining. *See Tec Air, Inc. v. Denso Mfg. Michigan Inc.*, 192 F.3d 1353, 1360 (Fed. Cir. 1999) ("There is no suggestion to combine, however, if a reference teaches away from its combination with another source."). NXP provides different law for the basic proposition that a prior reference, such as Ching-San, need not be attempting to solve the exact same problem for it to render another patent, such as the '302, obvious. *See In re Gatabi*, No. 2022-1580, 2023 WL 3477285, at *3 (Fed. Cir. May 16, 2023) (not requiring the prior art reference to recognize the same problem the patent is acknowledging or solving); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420, 127 S. Ct. 1727, 1742, 167 L. Ed. 2d 705 (2007) ("Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.").

Both articulations are correct. It can be the case that the prior art reference need not be solving or even discussing the same problem as that being solved by the patent while there is a lack of motivation to combine because the prior art reference teaches away from, or discourages, a particular technique in the patent. *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983) (prohibiting the district court from "considering the references in less than

⁴ U.S. Patent Application No. 2011/0139501, "Electronic Chip and Substrate with Shaped Conductor" (filed Dec. 15, 2010).

1 their entireties[]”).

2 **2. Trial Evidence Concerning the Motivation to Combine**

3 At trial, Impinj presented affirmative evidence of the “squeeze flow” problem⁵ which the
4 ‘302 was addressing. Eberhardt does not discuss this issue. Rather, Eberhardt teaches an
5 assembly method that is purportedly better than flip chip and therefore teaches away from flip
6 chip, according to Impinj. In fact, the “flip chip” assembly techniques are discussed only in the
7 Background section of Eberhardt.⁶ However, Impinj brings to the Court’s attention no authority to
8 support the proposition that this alone necessitates a finding that the prior art teaches away.

9 Further, while the Ching-San prior art does discuss a “squeeze flow” problem, it is not
10 the same as that addressed by the ‘302 patent, according to Impinj. The innovation in Ching-San,
11 according to Impinj, is that it permits adhesive to flow around soldered bumps, under the IC,
12 whereas the ‘302 is directed to the facilitation of fluid flow through a channel.

13 NXP disagrees, relying principally on Dr. Subramanian’s testimony for the following
14 propositions: One, he testified that modifying the large rectangular pads of Eberhardt according to
15 the instructions of Ching-San would have resulted in a simple substitution. Two, both Eberhardt
16 and Ching-San concern flip chip assembly. Three, a POSITA would have looked to the teachings
17 of Ching-San to address the “squeeze flow” problem arising from Eberhardt. Further, NXP
18 observes that Eberhardt provides an overview of flip chip techniques (in the Background section)
19 but argues that Eberhardt solved a problem associated with flip chip techniques by introducing
20 large, printed interconnection pads. According to NXP, this *improves* flip chip assembly.

21 Dr. Subramanian’s testimony is sufficient evidence of a motivation to combine. *See, e.g.*,
22 July 12 Trial Tr. at 1009:12-1010:12 (testifying that a POSITA would understand that Ching-San
23 teaches changing the shape of the pads to solve the “squeeze flow” problem); *id.* at 1012:6-
24 1024:25 (explaining that each of the elements of claim 1 of the ‘302 is met by the combination of

26 ⁵ The “squeeze flow” problem relates to how the liquid adhesive that attaches the IC to an
27 antenna “flows” when they are literally squeezed together. *See* Impinj Mtn. at 9.

28 ⁶ “Flip chip” assembly methods entail inverting the integrated circuit (“IC”) and using glue
to attach it to the antenna.

1 Eberhardt and Ching-San despite neither meeting the limitations alone and despite the prior art not
 2 being directed to RFID specifically); *id.* at 1029:11-1032:6 (opining that Eberhardt does not teach
 3 away from flip chip despite incorporating by reference another patent that specifically identifies
 4 drawbacks of flip chip techniques); *id.* at 1033:4-1043:13 (proposing that “Eberhardt, like any
 5 good engineer, identifies problems[and] proposes solutions[,]” such as the problem of using large
 6 pads, which are costly, but printing them, which reduces cost).

7 There is also evidence to support combining Eberhardt and Ching-San to arrive at the
 8 teachings of claim 3 of the ’302. *See id.* at 1033:4-1039:3 (explaining that the channels produced
 9 by a combination of Eberhardt and Ching-San would typically be “non-convex” in that they “are
 10 wider at the ends and narrower at the center”).⁷

11 NXP argues that the prior art does in fact identify a squeeze flow problem: (*see id.* at
 12 1018:5-6; 1009:17-1011:2 (opining that Ching-San explicitly identifies a “squeeze flow” problem
 13 and the problem is implicit in Eberhardt)). Additionally, a POSITA would look to Eberhardt to
 14 solve that problem. *See id.* at 1020:22-1021:3 (opining that the “squeeze flow” problem present in
 15 Eberhardt is the same as that the ’302 is attempting to solve). Finally, a combination of Eberhardt
 16 and Ching-San would solve that problem, according to NXP. *See id.* at 1018:4-13 (explaining that
 17 Ching-San recognizes this problem); *id.* at 1020:19-21 (“So as far as sort of looking to solve the
 18 problem, one would absolutely look to [Ching-San]”).

19 The Court decided, at summary judgment and in its Order on the Motion for
 20 Reconsideration, that there is evidence to support both sides. In other words, it is the province of
 21 the jury to make a credibility determination regarding the parties’ experts’ opinions concerning
 22

23 ⁷ NXP’s expert Dr. Subramanian stated in testimony that Eberhardt discloses only a
 24 straight channel. In light of the jury’s question whether parallel lines may constitute a non-convex
 25 shape, it is plausible that the jury was considering whether claim 3 is anticipated by Eberhardt, but
 nothing in this demonstrates the jury’s acceptance of the combination of Eberhardt and Ching-San.

26 The jury may also have been confused by Dr. Subramanian’s testimony that claims 4 and 7
 27 were “not disputed” by Impinj. Dr. Subramanian was presumably explaining that those claims
 28 were not separately being argued, but the jury may have misinterpreted this statement as indicating
 that Impinj had already conceded the invalidity of the claims. *See* Dkt. No. 451, (“Impinj
 Response”) at 5 (“the jury heard testimony from Dr. Subramanian that claims 4 and 7 were not
 disputed by Impinj.”).

whether the prior art *improves upon* or *teaches away from* flip chip assembly techniques.

3. Analysis

Here, the relevant portion of the '302 patent disclosed "1. A Radio Frequency Identification (RFID) integrated circuit (IC) comprising an IC substrate . . . the channel spans a majority of a width of the IC substrate; . . .; and the channel is shaped to facilitate a fluid flow from the center to the first and second ends." Dependent claim 3 disclosed: "The RFID IC of claim 1, wherein the channel has a non-convex shape." Both were found to be valid. Meanwhile, dependent claim 4 disclosed: "The RFID IC of claim 1, wherein the channel is substantially symmetric about at least one plane orthogonal to the surface of the IC substrate." Dependent claim 7 disclosed: "The RFID IC of claim 1, wherein each of the antenna contacts includes: a raised nonconductive structure; and a conductive layer disposed on the raised nonconductive structure." These two claims were found to be obvious.

Under Ninth Circuit precedent, "[u]nless one legal conclusion is the prerequisite for another, inconsistencies between them must stand." *Zhang v. Am. Gem Seafoods, Inc.*, 339 F.3d 1020, 1034 (9th Cir. 2003). Said differently, the Ninth Circuit accepts inconsistencies in verdicts, unless one depends on the other. That is exactly the situation that we have here. If claim 1 is nonobvious, then dependent claims 3, 4, and 7 must all be nonobvious. If *any of* claims 3, 4, or 7 is obvious, then independent claim 1 must be found obvious.

The *Zhang* court reviewed only one instance in which the jury returned inconsistent verdicts predicated on each other, and in that case, the court upheld the verdict on the ground that it was not legally impossible for the jury to have arrived at its conclusions. *See Vaughan v. Ricketts*, 950 F.2d 1464, 1470 (9th Cir. 1991) (upholding jury verdict that defendants violated the constitutional rights of plaintiffs while finding that defendants were nonetheless entitled to qualified immunity). That is not the case here. The verdict is not consistent with itself. *See Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1344 (Fed. Cir. 2009) (ordering a new trial on validity where there was "no dispute that the verdicts[,] which entailed the obviousness of a dependent claim and a finding that the claim from which it depended was not obvious, were irreconcilable). Notably, in *Vaughan*, the court did not review the findings for sufficiency of

evidence. The Court does so anyway for thoroughness.

The Court agrees that if a reference “teaches away” if cannot serve as a prior art reference to support non-obviousness. *See Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (explaining that if a reference does not criticize, then it does not teach away, from which it follows that if it teaches away, then it criticizes or otherwise discourages). “Prior art teaches away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 876 F.3d 1350, 1360 (Fed. Cir. 2017) (internal citations and quotations omitted).

As outlined above, the parties dispute whether Eberhardt teaches away.

NXP argues that Impinj’s view would render the printed large interconnection pads superfluous, because their purpose is to increase the area for coupling and thereby facilitate aligning interconnection pads with the antenna. Finally, Eberhardt also incorporates by reference Eberhardt-920, which discloses ICs having large rectangular interconnection pads used in flip chip configurations. Impinj argues against this on the ground that the use of conductive adhesive to print interconnection pads disclosed in Eberhardt does not concern flip chip assembly. *See Impinj Mtn.* at 10, n.5 (“To be clear, Eberhardt discusses that a conductive adhesive may be used to print its interconnection pads [], but this does not relate to a flip chip assembly method and was not relied on by Dr. Subramanian during his testimony”). NXP’s argument here is largely uncontroverted, and it is the prerogative of the jury to credit the experts’ testimony on this point.

At bottom, for the ’302 patent, the verdict is legally inconsistent. Moreover, because the verdict did not include any interrogatories regarding whether the jury factually accepted that a POSITA would have been motivated to combine the prior art references (Eberhardt and Ching-San) such that independent claim 1 of the ’302 (or any other claims for that matter) would have been obvious, the Court cannot conclude with any reasonable level of certainty what the jury ascertained regarding that issue. Dependent claim 3 includes all of the limitations of claim 1, as do dependent claims 4 and 7. The only ground NXP advanced at trial for the obviousness of the asserted claims of the ’302 was the combination of Eberhardt and Ching-San. If those prior art

references could not have been combined to render independent claim 1 obvious, then they cannot have been combined to render claims 3, 4, or 7 obvious.⁸ However, it is equally true that, under the jury's finding, a POSITA would have been motivated to combine the prior art references to arrive at the teachings of dependent claims 4 and 7. Therefore, it is equally true that claim 1 is invalid as obvious. Both cannot be true.

4. Additional Bases Challenging Proposed Combination as a Matter of Law

a. Corollaries of Dr. Subramanian's Proposed Combination

The modifications to Eberhardt that Dr. Subramanian proposes would make the IC inoperable, according to Impinj. Moreover, the teachings of the '302 and of Eberhardt are incongruent in that the former teaches pads as large as possible whereas the latter is directed to pads of a certain size.

NXP contests Impinj's assertion that Eberhardt's goal is for the pads to be as large as possible. Nothing in Ching-San makes it impossible to combine it with Eberhardt, according to NXP, and that combination would not produce an inoperable IC.

Modifications that "render the prior art reference inoperable for its intended purpose[]" do not invalidate on obviousness grounds. *In re Fritch*, 972 F.2d 1260, 1266 n.12 (Fed. Cir. 1992). Impinj's argument, however, is that the proposed modification *could* disrupt the electrical connection between the antenna and the rest of the circuit, not that it would. That said, the obviousness inquiry "*requires*" the Court to consider the knowledge and common sense of a POSITA. *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (internal citations and quotations omitted) (emphasis in original).

b. Secondary Considerations of Nonobviousness

According to Impinj, Dr. Subramanian incorrectly testified that there were no secondary considerations relevant to the '302. Impinj argues that Dr. Subramanian failed to consider evidence of the '302 producing surprising results, NXP copying Impinj's technology, and

⁸ The only other possibility is that the dependent claims do not in fact depend from claim 1 because they are broader in scope, a theory which no party sets forth here.

customers and nonparties praising Impinj for the benefits of its technology. Dr. Subramanian, according to Impinj, dismissed this evidence and ignored industry praise for Impinj's design innovation.

NXP is correct that this argument is waived. *See E.E.O.C. v. Go Daddy Software, Inc.*, 581 F.3d 951, 961 (9th Cir. 2009) (setting forth that any argument not raised in the motion for judgment as a matter of law may not be raised in a renewed motion for judgment as a matter of law). Impinj does not raise this argument in its initial motion. *See* Dkt. No. 420. Impinj does not address this in its briefing either.

The Court does not resolve credibility disputes at this juncture. Instead, the Court is focused on the sufficiency of the evidence presented and whether a jury's verdict can be supported. Notwithstanding that the secondary considerations argument is waived, this is a highly fact-intensive inquiry. NXP's argument essentially rests on Dr. Subramanian's testimony.⁹

Moreover, the Court could perhaps find waiver of the entire issues on the ground that the Court polled the jury and asked the parties whether it needed anything else. *See L & W, Inc. v. Shertech, Inc.*, 471 F.3d 1311, 1319 (Fed. Cir. 2006) (finding that party could have raised objection to jury verdict during polling or immediately after the jury was dismissed when the trial court judge asked whether the record should reflect anything else). The waiver arguments are largely inapposite, however, because all parties and the Court agree that the verdict is inconsistent.

* * *

In sum, the Court vacates the judgment of the jury concerning the validity of claims 1, 3, 4, and 7 of the '302 and orders a new trial on obviousness. The Court does not do this lightly, as it has never granted such a request.

B. '597 Patent

With respect to the '597, NXP seeks a ruling as a matter of law that (i) its accused products

⁹ The Court may also consider the jury's questions in reconciling the verdict. *See United States v. Ailsworth*, 138 F.3d 843, 847 (10th Cir. 1998) (evaluating whether the jury's questions were consistent with the verdict); *Riddle v. Tex-Fin, Inc.*, 719 F. Supp. 2d 742, 750 (S.D. Tex. 2010) (going against the general rule that unsolicited jury comments are mere surplusage when such comments cast doubt on the integrity of the verdict).

do not infringe the '597 patents, (ii) its sales to Hong Kong do not constitute U.S. sales, and (iii) Impinj is not entitled to lost profits. The Court addresses each. The Court may grant NXP's requests "only if [] there is no legally sufficient basis for a reasonable jury to find for that party on that issue." *Winarto v. Toshiba Am. Elecs. Components, Inc.*, 274 F.3d 1276, 1283 (9th Cir. 2001) (citations omitted).

1. Evidence to Support Infringement of the '597

NXP raises two arguments claiming insufficiency of the evidence to support the jury's finding of infringement. Both largely repeat arguments previously made and resolved. The jury made its decision thereon and no valid basis exists to overturn the verdict concerning infringement of the '597.

a. No Evidence of a "Stage" Satisfying the Limitation

i. Evidence of Schematics

Impinj contests NXP's argument that there is no evidence of a "stage" in the accused products that meets this limitation.

This issue arises from the Court's construction of the term "stage" as a "unit of circuit components that steps up a DC voltage to its output during a single RF cycle." In arguing insufficiency of the evidence, NXP is merely repackaging the arguments previously made for a different construction.

According to Impinj, it is not relevant that a different set of components includes the four-transistor stage which entails two "synchronous elements." NXP arguments are based on a narrow version of "unit" and the notion that the "boxes" that appear on the schematics are not determinative of what actually constitutes a stage. *See* July 7 Trial Tr. 589:4-9 (emphasizing that the boxes that appear on circuit schematics have no physical or electrical manifestation); *id.* at 509:7-10 (opining that a "stage" is not defined in engineering and so is merely convention); *id.* at 587:4-8 (opining that the term "stage" does not mean anything in engineering); July 6 Trial Tr. 366:9-15 (explaining that "stage" as it is used here marks only where a cycle begins and ends).

The Court considers this argument as primarily preserving the issue for appeal as NXP offers nothing new. The parties had an opportunity to brief and argue this. The Court rejected

1 NXP's attempt to impose a narrower construction on the word "stage" upon which it bases its
2 argument. It does so again here.

3 **ii. No DC Voltage Output Stepping Up**

4 The next dispute hinges on whether the *stage* outputs a stepped up DC voltage. The
5 parties' experts presented conflicting evidence which the jury resolved.

6 Impinj argues that Dr. Durgin's testimony establishes that the rectifier would not function
7 if there were no DC output to it. NXP refutes that the accused products have such stages,
8 premising their argument on the idea that Impinj's identified stages are chosen arbitrarily and
9 selectively so as to make them stages that fit the requirements of the claims of the '597. The battle
10 of the experts was presented to the jury. The jury decided and on the basis of the expert's
11 testimony, sufficient evidence for the jury's finding exists.

12 There is more than sufficient evidence to find that the nodes of the rectifier have a DC
13 component to their voltage, which, by definition, must be higher at the output than at the input.
14 *See* July 12 Trial Tr. at 1128:20-1129:10 (opining that there can be AC voltage and DC voltage at
15 the same node); *id.* at 1130:24-1131:4 (opining that there is *always* a DC component to the voltage
16 on each node within the charge-accumulating path of a rectifier).

17 NXP's second argument appears to be that, even if such tranches of the circuit qualify as
18 stages, they do not have DC outputs and they are not stepped up. The Court's construction
19 requires only the stage to have a DC output, not a DC output powering the entire circuit. Dr.
20 Durgin's testimony that the voltage is stepped up at that point, while not unrebutted, is enough for
21 the jury to conclude that the accused products read on to the claims. *See id.* at 1128:4-5 ("Yes. It's
22 not uncommon to have a DC and an AC voltage at the same node.").

23 **b. One or More Charge-Accumulating Paths**

24 NXP again argues insufficient evidence to support a finding of more than one charge
25 accumulating paths. Again, the experts battled. The jury's acceptance of either's opinion is
26 sufficient.

27 All parties agree that functioning rectifiers continually step up voltage at each node along a
28 charge-accumulating path, and no party disputes that the accused products include a rectifier. Dr.

Durgin testified that, as is required by the claims of the ‘597, the accused products include stages that have DC outputs. By its finding, the jury agreed. The parties appear to agree that charge is flowing in both directions. *See, e.g.*, Impinj Response at 17-18 (relying on testimony from Mr. Oliver “that bias circuitry carries current in the opposite direction of charge accumulation”); Dkt. NXP Mtn. at 19 (reasoning that the accused products cannot meet the claimed limitations because even Impinj’s own witness testified that the accused products have additional charge pumps that move charge along a path, thus vitiating the possibility that there is only one charge-accumulating path). Thus, it resolved the remaining question as to whether the secondary path amounts to a “charge-accumulating path.”¹⁰

The motion for a JMOL on non-infringement of the ‘597 is denied.

2. Sales Made to AdvanIDe in Hong Kong

No party contests that Impinj bears the burden to prove that the contested sales occurred within the United States. NXP argues that “not a shred of evidence” exists that the sales of products shipped through AdvanIDe in Hong Kong occurred in the United States. (NXP Mtn. 20:9-10.) Impinj disagrees.

The standard under Federal Circuit law is not definitive and the standard of proof is merely that of a preponderance. Thus, the circuit instructs that the “standards for determining where a sale may be said to occur do not pinpoint a single, universally applicable fact that determines the answer, and it is not even settled whether a sale can have more than one location.” *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1308 (Fed. Cir. 2015) (internal citations omitted). Among the factors that courts consider are: 1) location of contemplated future sale; 2) location of delivery; 3) location of “performance”; 4) location of negotiations; and 5) location of execution of sales. *See MediaTek Inc. v. Freescale Semiconductor, Inc.*, No. 11-CV-5341 YGR, 2014 WL 580836, at *2-3 (N.D. Cal. Feb. 13, 2014) (examining the factors courts have considered

¹⁰ Impinj argues that the bias flow argument is nonsensical because that charge flows in the opposite direction of the main current, making it impossible for it to be charge-accumulating. In any event, voluminous trial testimony supports the conclusion that charge flows in both directions. *See, e.g.*, July 7 Trial Tr. at 538:23-539:5 (agreeing that a small amount of leakage current flows against the main charge-accumulating path); *id.* at 536:5-8 (“[i]t’s flowing opposite the direction of the charge-accumulating path”); *id.* at 359:12-16 (“[the charge] is going against the flow”).

1 in determining whether a sale occurred under section 271) (internal citations omitted). The jury
2 was provided with these broad-based instructions. *See* July 11 Trial Tr. at 729:1-731:12 (showing
3 that the jury was instructed on what constitutes infringement). NXP waived any objection to the
4 jury instructions directing the jury to consider a number of factors in determining where the sales
5 to AdvanIDe occurred.

6 The jury heard evidence that NXP USA, the defendant, is responsible for all sales made to
7 its customer AdvanIDe America, that is, as in the “Americas” not solely “the United States of
8 America.” *See* July 12 Trial Tr. at 1071:6-9 (showing that the distribution region for AdvanIDe
9 Americas, Inc. is the Americas). Further, AdvanIDe America does have offices in the United
10 States and at least some of the products sold to AdvanIDe were delivered to Hong Kong and
11 returned to the United States market. *Id.* at 1068:23-1069:3 (explaining that AdvanIDe Americas,
12 Inc. “is based in the United States”); *id.* at 1070:6-10 (testifying that the location of AdvanIDe
13 offices within the United States is unknown); *id.* at 1072:6-14 (testifying that AdvanIDe Americas,
14 Inc. is “franchised to operate” only “in the Americas”); *id.* at 1060:11-22 (explaining that
15 AdvanIDe is a distributor for NXP). The evidence also showed that only a small fraction of
16 NXP’s sales during the time period at issue were to entities within the United States. *See* Trial Ex.
17 419 (showing numerous sales made to entities outside of the United States). At the hearing on
18 September 5, 2023, Impinj could point to no other evidence.¹¹

19 Exhibit 419 identifies approximately 100 transactions to AdvanIDe America with an “end
20 customer” “state” and “country” in the United States. The evidence is sufficient as for those
21 transactions, but no others. Accordingly, the damages awarded to Impinj must be reduced.

22 * * *

23 In light of the order granting a new trial as to the ‘302, and the overlap in the damages with
24 the ‘597, damages must be reduced on two separate grounds. The parties shall brief the exact
25

26 ¹¹ Impinj referenced only one other exhibit at the hearing, Trial Exhibit 534, which it
27 mentioned as being distinct from Exhibit 419 in that it shows *only* foreign sales. *See* Dkt. No.
28 469, September 5, 2023 Hr’g Tr. at 39:10-13 (“In fact, you can distinguish those sales from the
sales in Exhibit 534, where there are foreign destinations for those sales to the AdvanIDe parent or
affiliate, and those sales are allocated to different NXP entities.”).

1 amount of the reduction consistent with this Order.

2 **3. Evidence to Support Lost Profits**

3 NXP seeks judgment on the topic of lost profits on the grounds that Impinj did not provide
4 evidence of its own capacity to manufacture and market the amounts sought, especially Impinj's
5 own inability to meet its own customers' demands. Impinj denies the position and argues that any
6 shortages in its manufacturing capacity were caused by NXP's infringement.

7 A jury can consider the but-for world in making its determination, that is, a jury can
8 consider whether Impinj would have been able to manufacture absent, or but for, NXP's
9 infringement. *See Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1545 (Fed. Cir. 1995)
10 (acknowledging a "but for" test) (internal citations and quotations omitted); *Crown Packaging*
11 *Tech., Inc. v. Belvac Prod. Mach., Inc.*, 591 F. Supp. 3d 52, 79 (W.D. Va. 2022) (declining to
12 proscribe recovery of lost profits at summary judgment where expert opined that patentee lacked
13 capacity to meet demand without more); *but see Viasat, Inc. v. Space Sys./Loral, Inc.*, No. 3:12-
14 CV-00260-H WVG, 2014 WL 3896073, at *10 (S.D. Cal. Aug. 8, 2014) (ordering new trial on
15 damages where, among other problems, the Court questioned the patentee's expert's assumptions
16 regarding the "but for" infringement world).

17 According to Dr. Diorio, Taiwan Semiconductor Manufacturing Company provided fewer
18 chips to Impinj because its market share diminished which, the jury reasonably could find, was
19 due to NXP's infringement. *See* July 6 Trial Tr. at 272:12-273:3 (explaining that Impinj's wafer
20 allocation was diminished by supplier TSMC because Impinj's output had decreased due to NXP's
21 infringement); July 11 Trial Tr. at 749:13-750:24 (explaining that regardless of wafer shortages
22 caused by infringement or the Covid-19 pandemic, Impinj had substantial excess inventory,
23 suggesting it could meet greater demand).

24 NXP relies on *Viasat* for the proposition that the jury's lost profits award is speculative,
25 but *Viasat* is distinguishable because there the jury awarded a reasonable royalty six times greater
26 than the alleged infringer's anticipated profits, which is not the case here.¹²

27
28 ¹² The jury heard evidence that the global wafer shortage may have impacted Impinj's
output. In any event, the jury's award of lost profits is supported by Dr. Diorio's testimony that

1 The motion is denied.

2 **IV. CONCLUSION**

3 For the foregoing reasons, the Court **GRANTS** NXP's request for a new trial regarding the
4 validity of the asserted claims of the '302, **DENIES** the same as to infringement of the '597,
5 **GRANTS** NXP's motion for JMOL as to extraterritorial sales beyond those delivered to by
6 AdvanIDE Americas to the United States, and **DENIES** Impinj's motion for judgment as a matter
7 of law as to the validity of claims 4 and 7 of the '302 patent.


8 With respect to the issue of the reductions of damages, the parties shall meet and confer
9 and submit one joint filing. While the parties may preserve any objections to this order for
10 purposes of appeal, the parties shall attempt to agree on the math. If the parties cannot agree on
11 the math, they shall submit a chart which identifies each element of the calculation of damages
12 showing items of agreement and the items of disagreement. For areas of disagreement, the parties
13 shall attach as exhibits, the trial evidence upon which they rely for their position. The parties shall
14 submit the joint filing by **October 20, 2023**.

15 The Court will issue a separate order setting a new trial date.

16 This terminates Docket Nos. 419, 420, 444, and 451.¹³

17 **IT IS SO ORDERED.**

18 Dated: 9/28/2023

19
20 
21 YVONNE GONZALEZ ROGERS
22 UNITED STATES DISTRICT JUDGE
23
24
25

26 _____
26 Impinj lost manufacturing capacity at least in part due to NXP's infringement.

27 ¹³ This Order also terminates the Rule 50 motions filed at the close of evidence. Docket
28 Nos. 419 and 420.